

MEMORANDUM

To: USACE Colonel James L. Booth, LTC Todd F. Polk, Richard McMillen, Kim Taplin, SFWMD Governing Board, Executive Director Drew Bartlett, Jennifer Reynolds, Lawrence Glenn, DEP Secretary Shawn Hamilton

From: Periodic Scientists Conference Call Participants
 Kevin Godsea & Avery Renshaw - J.N. "Ding" Darling National Wildlife Refuge (NWR) Complex
 Holly Milbrandt & Dana Dettmar - City of Sanibel
 Lesli Haynes & Lisa Kreiger - Lee County
 Harry Phillips & Maya Robert - City of Cape Coral
 Leah Reidenbach, Rick Bartleson PhD, & Matt Depaolis - SCCF (Sanibel-Captiva Conservation Foundation)

Subject: Caloosahatchee & Estuary Conditions Report

Reporting Period: **April 25 – May 1, 2023**

This report provides a scientific assessment of Caloosahatchee River and Estuary conditions and how these conditions affect the health, productivity, and function of the system.

Caloosahatchee Conditions Summary: Flow to the Caloosahatchee Estuary had a 7-day average of **1,744 cfs** at **S-79** with a 7-day average of **931 cfs (53%)** coming from the lake at **S-77**. **The 14-day moving average flow at S-79 is 1,868 cfs and has been in the optimum flow envelope (750 – 2,100 cfs; RECOVER 2020) for 19 days.**

Recommendation: As the rainy season approaches, we remain concerned with the high level of the lake and its currently stalled recession rate. We strongly encourage the Corps to utilize all options to reduce lake levels prior to the wet season to prevent damaging releases to the estuaries and to maintain an optimum flow envelope of 750 – 2,100 cfs at S-79 (RECOVER 2020) to support an optimal salinity gradient and spawning activities of oysters in the estuary.

USACE Action: With Lake Okeechobee in the Low sub band and normal tributary hydrologic conditions, LORS08 Part D suggests up to 3,000 cfs at S-79 and up to 1,170 cfs at S-80. On 4/15/23 the USACE decreased releases from Lake Okeechobee to the St. Lucie Estuary (S-80) to 0 cfs and to the Caloosahatchee Estuary from the W.P. Franklin Lock and Dam (S-79) to 1,800 cfs. **Since entering the low sub band on 2/13/23 the USACE began utilizing banked releases** from a make-up release tool which allowed them to make releases at levels lower than suggested in LORS08 since 11/18/22 and bank the volume not released for beneficial releases throughout the dry season.

Lake Flows: In the past 7 days the total outflow from Lake Okeechobee was **13,684 AF** with **12,930 AF** to the Caloosahatchee through **S-77**, **75 AF** through **S-310** in Clewiston, and **0 AF** to the EAA through **S-351**, **S-352**, and **S-354**. The total net inflow to the Lake was **5,985 AF** (5,236 AF from Fisheating Creek, S-71, S-72, S-84s, S-65EX, and S-65EX1) with a total backflow volume of **748 AF** from **S310** and **C10A**. Water conservation areas received flows of **7,252 AF**, **-129 AF**, and **17,520 AF** at **WCA1**, **WCA2**, and **WCA3**, respectively. Everglades National Park received **9,060 AF**.

Lake Level: 14.30 ft (Low sub-band)

Last Week: 14.26 ft

Last Year: 12.98 ft

7-Day Lake Recession Rate: +0.07 ft/week

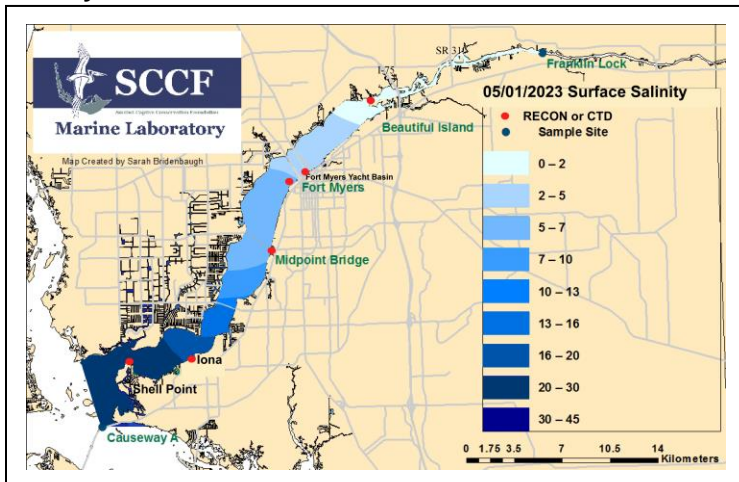
Lake Okeechobee Inflow: 413 cfs

Lake Okeechobee Outflow: 1057 cfs

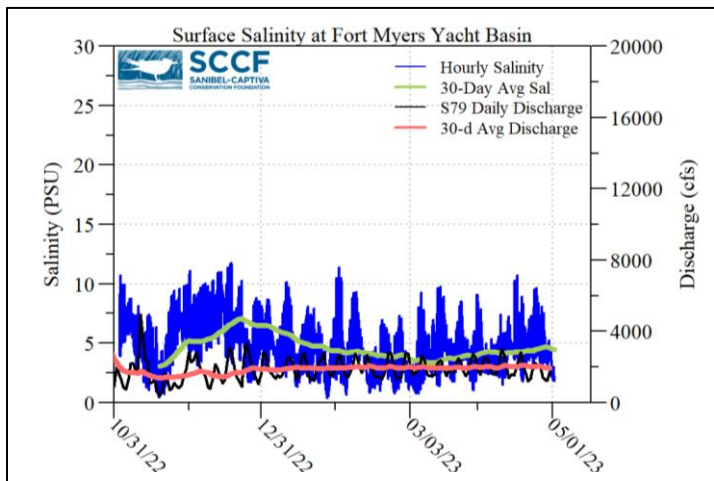
Weekly Rainfall Total: WP Franklin: 0.69"

Ortona: 0.96"

Moore Haven: 0.08"



ACOE Daily Reports			
Date	S79 Flow (cfs)	S78 Flow (cfs)	S77 Flow (cfs)
4/25/23	2072	1685	1221
4/26/23	1957	1215	878
4/27/23	1465	1298	1142
4/28/23	1249	856	527
4/29/23	1226	1026	723
4/30/23	1746	1241	906
5/1/23	2492	1528	1122
7-day avg	1744	1220	931



Light Penetration				
Site	25% I _z	Target Values	Turbidity	Target Values
	meters		NTU	
Fort Myers	ND	> 1	ND	< 18
Shell Point	1.85	>2.2	2.2	< 18
Causeway	2.95	> 2.2	4.1	< 5

25% I_z is the depth (z) where irradiance (I) is 25% of surface irradiance. Target values indicate the depth of light penetration needed for healthy seagrass.
^m measured, ^c calculated

Cyanobacteria Status: On 5/1/23 sampling for cyanobacteria by the Lee County Environmental Lab reported **moderately abundant** *Dolichospermum* and *Microcystis* at the **Alva Boat Ramp** as visible specks on the surface and in the water column. *Dolichospermum* was **moderately abundant** upstream of the **Franklin Locks** as visible specks. *Dolichospermum* was **present** at the **Davis Boat Ramp** with some wind driven accumulation along the ramp.

Upper Estuary Conditions: The 30-day average surface salinity at the Fort Myers Yacht Basin was 4.7 psu, within the suitable range for tape grass.

Lower Estuary Conditions: The average salinity at Shell Point RECON was 28 psu, in the optimal range for seagrass and oysters.

Water Quality Conditions:

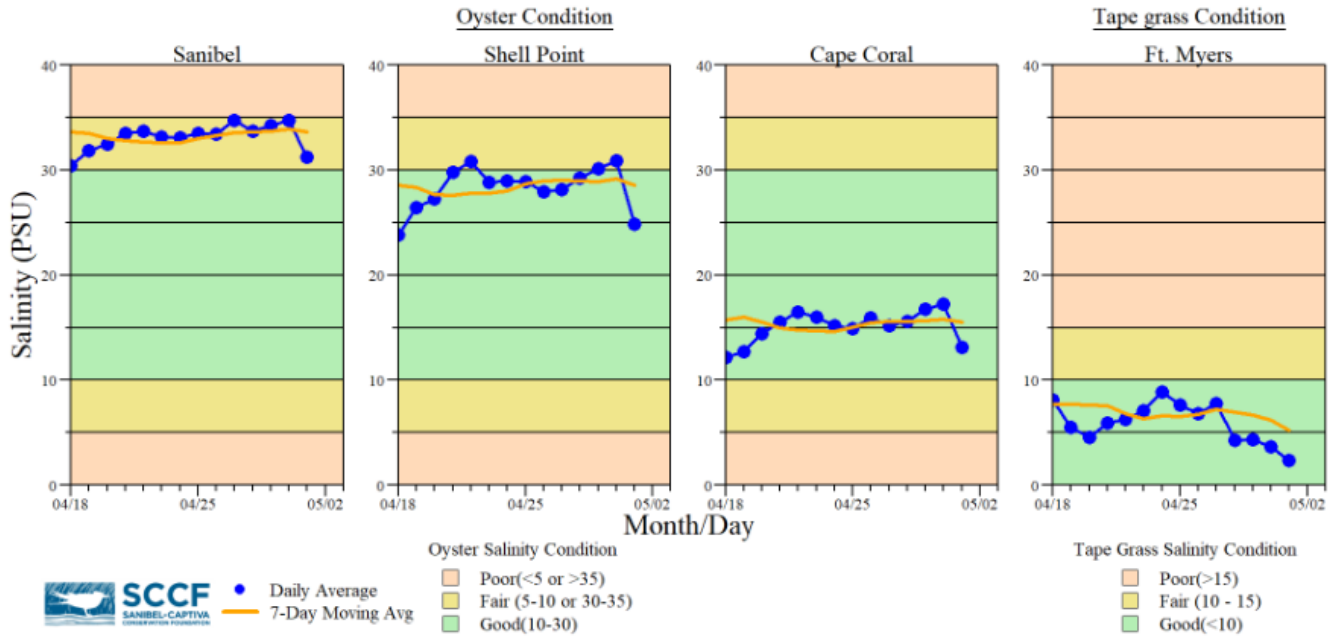
Monitor Site	Salinity (psu) ^a [previous week]	Diss O ₂ (mg/L) ^b	FDOM (qsde) ^c	Chlorophyll (µg/L) ^d
Beautiful Island	0.2 – 0.8 [0.2 – 1.0]	3.0 – 6.5	-----	6.0
Fort Myers Yacht Basin	----- [-----]	-----	-----	-----
Shell Point	16 – 34 [18 – 35]	4.5 – 5.9	77.0	2.2
McIntyre Creek	32.3 – 34.7 [31.9 – 33.3]	2.1 – 10.7	-----	-----
Tarpon Bay	31.7 – 36.3 [32.3 – 34.9]	4.6 – 9.3	1.2 – 5.9	-----
Wulfert Flats	32.6 – 33.8 [32.3 – 33.1]	2.6 – 8.2	-----	2.2 – 11.7

- Red values are outside of the preferred range.
- ^a Salinity target values: BI < 5, FM < 10, SP = 10 – 30
- ^b Dissolved O₂ target values: all sites > 4
- ^c FDOM target values: BI < 70, FM < 70, SP < 11
- ^d Chlorophyll target values: BI < 11, FM < 11, SP < 11
- ^s Single sonde lower and surface layer or surface grab lab measurement
- no data

Red Tide: On 4/28/23, the FWC reported that over the past week the red tide organism, *Karenia brevis*, was detected in 76 samples collected from Florida’s Gulf Coast. Bloom concentrations (>100,000 cells/liter) were present in two samples: **one offshore of Lee County** and one offshore of Collier County.

In Southwest Florida over the past week, *K. brevis* was observed at background to low concentrations in and offshore of Pinellas County, background concentrations in Hillsborough County, background concentrations in Manatee County, background to low concentrations in and offshore of Sarasota County, background concentrations in and offshore of Charlotte County, **background to medium concentrations in and offshore of Lee County**, and background to medium concentrations in and offshore of Collier County.

Wildlife Impacts: In the past week, the CROW wildlife hospital on Sanibel received 1 patient with toxicosis symptoms: 1 adult sanderling (died).



Daily average bottom salinity data for the last 14-days from sampling locations within the tidal Caloosahatchee River Estuary relative to oyster health (Sanibel, Shell Point and Cape Coral) and tape grass (*Vallisneria americana*) health (Ft. Myers only) conditions.

*Ft. Myers sensor is in the lower strata

Data are provisional and subject to change.



Water clarity at Lighthouse Beach Park on 5/2/23 at 2:07 PM on a falling tide (1.7 ft). [Lighthouse Beach Park Virtual Tour.](#)